

Chapter 1: Diagnostics overview

This chapter outlines diagnostic procedures available for components of the Meridian IVR 2.0/I Application Processor.

Components tested

The diagnostic procedures cover testing routines for the following components:

- Intel ALTAIR Motherboard
- Intel Pentium P5-100 MHz or P5-75 MHz CPU
- Random Access Memory (RAM)
- hard disk drive
- floppy disk drive
- tape drive
- mouse
- keyboard
- SVGA monitor (14 inch or 17 inch)
- external modem
- 3270 SNA card (Arnet SYNC/570)
- Ethernet card (ZYNX PCI)
- VT100 serial card (DigiBoard PC/Xe)
- token ring card (Madge Smart 16/4 AT) for Host Connectivity
- token ring card (Madge Smart 16/4 AT) for LAN Connectivity
- fax card (Dialogic VFX/40E)

Diagnostic routines

There are three ways to diagnose system faults:

- Power On Self Test (POST)
- third-party DOS-based utilities including MTA Testview
- UNIX-based utilities provided by Northern Telecom (Nortel) and other vendors

These diagnostic approaches are described in the following sections.

Power On Self Test (POST) diagnostics

The system BIOS performs a Power On Self Test (POST) to verify the correct operation of the baseboard hardware.

Error messages are displayed on screen after the video subsystem has been tested and initialized. Before initialization, beep codes are used to notify you of errors.

The POST error codes are logged in NVRAM and in the extended BIOS data area, and are displayed on the LCD display.

For a full description of POST error codes and descriptions, refer to Appendix A: "POST diagnostics," on page A-1.

DOS-based utilities

The following third-party DOS-based utilities are provided with IVR 2.0/I:

- serial board diagnostics
- Intel system diagnostics (MTA)
- 3270 SNA card diagnostics
- token ring card diagnostics
- power supply diagnostics
- Ethernet card diagnostics

These utilities reside on a 10-Mbyte DOS partition in the Application Processor drive. You can access this partition by booting the system from a DOS floppy and accessing the c: drive.

UNIX-based utilities

This diagnostic group includes vendor-supplied programs and procedures developed by Nortel. The following procedures are available:

- Nortel UNIX system diagnostics
- ACCESS diagnostics
- serial board diagnostics
- fax test software

You can detect some problems with UNIX tools, such as the tool **fsck**. You can use this tool to detect hard drive failures.